

In the Claims

1 (original). A corn seed mixture comprising

- a) corn seed from a first corn line comprising a dominant loss-of-function *sh2* allele; and
- b) corn seed from a second corn line comprising a functional or semi-functional *sh2* or wild type *Sh2* allele, wherein said second corn line is a genetically male sterile corn line.

2 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises from about 0.1% to about 50% of said corn seed mixture.

3 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises from about 1% to about 50% of said corn seed mixture.

4 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises from about 1% to about 25% of said corn seed mixture.

5 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises from about 1% to about 15% of said corn seed mixture.

6 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises from about 1% to about 10% of said corn seed mixture.

7 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises about 0.1%, 0.2%, 0.3%, 0.4%, 0.5%, 0.6%, 0.7%, 0.8%, 0.9%, 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, 11%, 12%, 13%, 14%, 15%, 16%, 17%, 18%, 19%, 20%, 21%, 22%, 23%, 24%, 25%, 26%, 27%, 28%, 29%, 30%, 31%, 32%, 33%, 34%, 35%, 36%, 37%, 38%, 39%, 40%, 41%, 42%, 43%, 44%, 45%, 46%, 47%, 48%, 49%, or 50% of said corn seed mixture.

8 (original). The corn seed mixture according to claim 1, wherein said corn seed from said first corn line comprises about 5% of said corn seed mixture and said corn seed from said second corn line comprises about 95% of said corn seed mixture.

9 (currently amended). The corn seed mixture according to ~~any preceding claim~~ claim 1, wherein said corn seed from said second corn line comprises one or more genes that provide for desirable eating attributes or phenotype.

10 (original). The corn seed mixture according to claim 9, wherein said gene that provides for desirable eating attributes or phenotype is a gene associated with or responsible for thin pericarp phenotype.

11 (currently amended). The corn seed mixture according to ~~any preceding claim~~ claim 1, wherein said first corn line or said second corn line or both said first and second corn line is homozygous for a recessive *sugary* (*sul*) allele.

12 (currently amended). The corn seed mixture according to ~~any preceding claim~~ claim 1, wherein said first corn line or said second corn line or both said first and second corn line is homozygous for a *sh2-i* allele.

13 (currently amended). A method for producing a corn plant having kernels with increased sucrose content, said method comprising planting a corn seed mixture according to ~~any preceding claim~~ claim 1 and growing corn plants from said corn seed mixture and allowing for pollination of said corn plants to occur wherein corn ears produced by said pollinated plants comprise kernels exhibiting increased sucrose content.

14 (original). A method for producing a corn plant having kernels with increased sucrose content, said method comprising planting seed of a first corn line that comprises a dominant loss-of-function *sh2* allele, and planting seed of a second corn line that contains a functional or semi-

functional *sh2* allele or wild type *Sh2* allele, wherein said corn seed of said first corn line is planted in a separate row from corn seed of said second corn line, growing corn plants from said planted corn seed, wherein corn plants grown from said seed of said second corn line are made male sterile, and allowing for pollination of said corn plants to occur wherein only the plants grown from the first corn line can act as a pollinator of plants grown from the second corn line, and wherein corn ears produced by said pollinated plants comprise kernels exhibiting increased sucrose content.

15 (original). The method according to claim 14, wherein a corn plant grown from said seed of said second corn line is made male sterile by mechanical or hand detasseling.

16 (original). The method according to claim 14, wherein a corn plant grown from said corn seed of said second corn line is made male sterile by chemical means.

17 (original). The method according to claim 14, wherein six to eight rows of corn seed from said second corn line is planted followed by planting a single row of corn seed from said first corn line, wherein rows of corn seed from said second corn line and a row of corn seed from said first corn line are planted in an alternating fashion.

18 (currently amended). A corn plant, corn plant tissue, or corn plant seed produced by a method comprising planting a corn seed mixture according to claim 1 and growing corn plants from said corn seed mixture and allowing for pollination of said corn plants to occur wherein corn ears produced by said pollinated plants comprise kernels exhibiting increased sucrose content; or

by a method comprising planting seed of a first corn line that comprises a dominant loss-of-function *sh2* allele, and planting seed of a second corn line that contains a functional or semi-functional *sh2* allele or wild type *Sh2* allele, wherein said corn seed of said first corn line is planted in a separate row from corn seed of said second corn line, growing corn plants from said planted corn seed, wherein corn plants grown from said seed of said second corn line are made male sterile, and allowing for pollination of said corn plants to occur wherein only the plants grown from the first corn line can act as a pollinator of plants grown from the second corn line, and wherein corn ears

produced by said pollinated plants comprise kernels exhibiting increased sucrose content according to the methods of any of claims 13-17.

19 (original). The corn plant, corn plant tissue, or corn plant seed according to claim 18, wherein said corn plant, corn plant tissue, or corn plant seed comprises a *sugary (su1)* allele in a homozygous state.

20 (original). The corn plant, corn plant tissue, or corn plant seed according to claim 18, wherein said corn plant, corn plant tissue, or corn plant seed comprises an *sh2-i* allele in a homozygous state.

21 (currently amended). The corn plant, corn plant tissue, or corn plant seed according to ~~any of claims 18-20~~ claim 18, wherein said corn plant tissue is an ear of corn.

22-30 (canceled).